

Do Not Take From This Room

Handbook of Industrial Surfactants

Third Edition
Volume 1

Compiled by
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Synapse Information Resources, Inc.

EXHIBIT A

Chem. Descr.: PEG-59 tallowamine
Ion. Nature: Cationic
CAS: 61791-44-4
Uses: Cosurfactant, leveling agent for the differential dyeing of nylon
Properties: Yel. solid; water-sol.; HLB 17.5; 100% conc.

Rhodamox® VP-532/SPB [Rhodia HPCII]
Chem. Descr.: PEG-8 hydrogenated tallowamine
Ion. Nature: Nonionic/cationic
CAS: 61791-26-2
Uses: Wetting agent, penetrant, emulsifier, stabilizer, antistat, and lubricant; retarder, antiprecipitant, leveling agent in dyeing; dispersant for fiber-glass mat. mg.
Properties: Liq.; HLB 15.0; 20% act.

Rhodamox® C [Rhodia HPCII]
Chem. Descr.: Cocamine oxide
Ion. Nature: Nonionic
CAS: 61788-90-7; EINECS/ELINCS 263-016-9
Uses: Flash foamer and viscosifier in hard water
Properties: Liq.; 30% conc.

Rhodamox® CAPO [Rhodia HPCII]
Chem. Descr.: Cocamidopropyl dimethylamine oxide
Ion. Nature: Nonionic/cationic
CAS: 68155-09-9; EINECS/ELINCS 268-938-5
Uses: Foaming agent/stabilizer, thickener, emollient for shampoos, bath prods., dishwash, rug shampoos, fine fabric detergents, shaving creams, lotions, foam rubber, electroplating, paper coatings; used in toiletries for mildness
Properties: Colorless clear liq.; faint odor; water sol. disp. in min. oil; dens. 1.0 g/ml; f.p. < 0 C; 30% conc.

Rhodamox® LD [Rhodia HPCII]
Chem. Descr.: Lauryl dimethylamine oxide
Ion. Nature: Nonionic/cationic
CAS: 1643-20-5; EINECS/ELINCS 216-700-6
Uses: Foaming agent/stabilizer, thickener, detergent, wetting agent, antistat, emollient for shampoos, bath prods., dishwash, fine fabric detergents, shaving creams, lotions, textile softeners; used in toiletries for mildness; foam stabilizer in foam rubber, electroplating, paper coatings
Properties: Colorless clear liq.; faint char. odor; sol. in water, alcohols; disp. in nonpolar org. solvs., e.g., kerosene, min. oils; dens. 1.0 g/ml; f.p. < 0 C; pH 7-8; 30% act.

Rhodamox® SO [Rhodia HPCII]
Chem. Descr.: Stearamidopropylamine oxide
Ion. Nature: Nonionic
CAS: 25066-20-0; EINECS/ELINCS 246-598-9
Uses: Foamer, viscosifier, emollient, conditioner, hydrogen peroxide stabilizer in bleaching formulations, cold waves
Properties: Paste; 30% conc.

Rhodapex® AB-20 [Rhodia HPCII]
Chem. Descr.: Ammonium laureth sulfate
Ion. Nature: Anionic
CAS: 32612-48-9
Uses: Emulsifier for emulsion polymerization and min. oils; detergent
Properties: Liq.; 30% conc.

Rhodapex® CD-128 [Rhodia HPCII; Rhodia HPCII France]
Chem. Descr.: Ammonium capryleth sulfate
Ion. Nature: Anionic
CAS: 68891-29-2
Uses: High foaming emulsifier, wetting agent, dispersant for aq. high electrolyte systems, built detergents; air-entraining agent, foamer, frothing agent for concrete, cement, gypsum wallboard; solubilizer; wetting agent for crop protection formulations
Regulatory: Exempt from tolerance under EPA 40CFR §180.1001(c)(e)
Properties: Straw liq.; good sol. in electrolyte systems; sp.gr. 1.056; pour pt. -5 C; 58% act.

Rhodapex® CO-433 [Rhodia HPCII]

Chem. Descr.: Sodium nonoxynol-4 sulfate
Ion. Nature: Anionic
CAS: 68891-39-4
Uses: High foaming detergent, wetting agent, dispersant for dishwashing, scrub soaps, car washes, rug and hair shampoos; emulsifier for emulsion polymerization, petrol. waxes; antistat for plastics and syn. fibers; lime soap dispersant
Regulatory: FDA compliance
Properties: Vamish 4 max. clear liq.; mild aromatic odor; water-sol.; sp.gr. 1.065; dens. 8.9 lb/gal; visc. 2500 cps; surf. tens. 32 dynes/cm (1%); 28% act.

Rhodapex® CO-436 [Rhodia HPCII; Rhodia HPCII France]
Chem. Descr.: Ammonium nonoxynol-4 sulfate
Ion. Nature: Anionic
CAS: 9051-57-4
Uses: High foaming detergent, wetting agent, dispersant for dishwashing, scrub soaps, car washes, rug and hair shampoos; emulsifier for emulsion polymerization, petrol. waxes; antistat for plastics and syn. fibers; lime soap dispersant; crop protection formulations
Regulatory: FDA compliance; exempt from tolerance under EPA 40CFR §180.1001(c)(e)
Properties: Vamish 5 max. clear liq.; alcoholic odor; water-sol.; sp.gr. 1.065; dens. 8.9 lb/gal; visc. 100 cps; surf. tens. 34 dynes/cm (1%); 58% act.

Rhodapex® EA [Rhodia HPCII]
Chem. Descr.: Ammonium laureth (3) sulfate
Ion. Nature: Anionic
CAS: 32612-48-9
Uses: High foaming emulsifier for industrial, institutional and household cleaners; generates stable foam consisting of densely packed bubbles; produces luxurious feel in cosmetics, toiletries, pharmaceuticals; exc. wetting; rec. for clear liq. shampoos where low eye irritation is important, bubble bath, children's prods., antiseptic creams, contraceptive foams, diaper rash preventatives, deodorant preps.
Properties: Liq.; visc. 300 cps; cloud pt. -5 C; pH 6.7 (10%); 27% act.

Rhodapex® EA-2 [Rhodia HPCII; Rhodia Canada]
Chem. Descr.: Ammonium laureth sulfate
Ion. Nature: Anionic
CAS: 67762-19-0
Uses: Detergent used in personal care prods.
Properties: Liq.; 26% conc.

Rhodapex® EAY [Rhodia HPCII; Costec]
Chem. Descr.: Ammonium laureth sulfate
Ion. Nature: Anionic
CAS: 67762-19-0
Uses: Foaming agent, detergent, emulsifier for shampoos, bubble baths, liq. soaps; exc. wetting; rec. for clear liq. shampoos where low eye irritation is important, bubble bath, children's prods., antiseptic creams, contraceptive foams, diaper rash preventatives, deodorant preps.
Properties: Thixotropic liq.; cloud pt. 0 C; pH 6.7 (10%); 26% act.

Rhodapex® ES [Rhodia HPCII; Costec]
Chem. Descr.: Sodium laureth (3) sulfate
Ion. Nature: Anionic
CAS: 9004-82-4; EINECS/ELINCS 221-416-0
Uses: Emulsifier, high foaming base for shampoos, lt. duty detergents, bubble baths; polymerization surfactant
Properties: Liq.; 27% conc.

Rhodapex® ES-2 [Rhodia HPCII]
Chem. Descr.: Sodium laureth (2) sulfate
Ion. Nature: Anionic
CAS: 68585-34-2; EINECS/ELINCS 221-416-0
Uses: Detergent for shampoos, bubble baths
Properties: Liq.; 26% act.

Rhodapex® ES-12 [Rhodia HPCII; Costec]
Chem. Descr.: Sodium laureth sulfate (12 EO)
Ion. Nature: Anionic

CAS: 9004-82-4; EINECS/ELINCS 221-416-0
Uses: Surfactant for personal care prods.
Properties: Liq.; 60% act.

Rhodapex® EST-30 [Rhodia HPCII; Rhodia HPCII France; Costec]
Chem. Descr.: Sodium trideceth sulfate
Ion. Nature: Anionic
CAS: 25446-78-0; EINECS/ELINCS 246-985-2
Uses: Emulsifier, wetting agent, dispersant for baby shampoo, other personal care prods., household, industrial, institutional and industrial formulations, emulsion polymerization of styrene systems, textile scouring, dishwash
Regulatory: FDA compliance
Properties: Gardner 2 max. liq.; cloud pt. 14 C max.; pH 7.6-8.5 (10%); surf. tens. 33 dynes/cm (@ CMC); 29-30% act.

Rhodapex® ESY [Rhodia HPCII; Rhodia HPCII France; Costec]
Chem. Descr.: Sodium laureth (1) sulfate
Ion. Nature: Anionic
CAS: 68585-34-2; EINECS/ELINCS 221-416-0
Uses: Base, cosurfactant, emulsifier for shampoos, lt. duty detergents
Properties: Liq.; 30% conc.

Rhodapex® MA360 [Rhodia HPCII]
Chem. Descr.: Ammonium laureth (3) sulfate
Ion. Nature: Anionic
CAS: 67762-19-0
Uses: High active base for lt. duty dish and fine fabric cleaners at neutral pH; emulsifier
Properties: Liq.; 60% conc.

Rhodapex® N 70 [Rhodia HPCII]
Chem. Descr.: Sodium laureth sulfate
Ion. Nature: Anionic
CAS: 68585-34-2; EINECS/ELINCS 221-416-0
Uses: Foaming agent, detergent, emulsifier for shampoos, cleansers, liq. soaps, bath gels, bubble baths, hair prods.; high flash foam; rec. for light color pastel sol'ns.; stable over wide pH range
Properties: Light paste; typ. odor; pH 8 (5%); 69% min. act.
Environmental: Fully biodeg.

Rhodapex® NA 61 [Rhodia HPCII; Costec]
Chem. Descr.: Sodium laureth (3) sulfate
Ion. Nature: Anionic
CAS: 68585-34-2; EINECS/ELINCS 221-416-0
Uses: Emulsifier, high foaming base for dishwasher, textile scours, carwashing compds.
Properties: Liq.; 60% conc.

Rhodapex® NA 61 CG [Rhodia HPCII]
Chem. Descr.: Sodium laureth sulfate
Ion. Nature: Anionic
CAS: 9004-82-4; EINECS/ELINCS 221-416-0
Uses: Cosmetic grade surfactant featuring high flash foam; used in shampoos, bubble baths, body shampoos, hair prods.; rec. for light-colored pastel sol'ns.; stable over wide pH range
Properties: Nearly colorless clear liq.; ethanolic odor; visc. 100 cps; cloud pt. 7 C; pH 6.5-7.5 (5%); 58% act.
Environmental: Fully biodeg.

Rhodapon® BOS [Rhodia HPCII; Rhodia HPCII France; Costec]
Chem. Descr.: Sodium 2-ethylhexylsulfate
Ion. Nature: Anionic
CAS: 126-92-1; EINECS/ELINCS 204-812-8
Uses: Wetting agent, emulsifier, detergent, foamer with high electrolyte tolerance for industrial, institutional and household cleaners; latex stabilizer, nickel brightener, metal treatment; textile and plywood mfg.; fruit and veg. washing
Regulatory: FDA compliance
Properties: Clear liq.; visc. 50 cps; cloud pt. < 10 C; pH 9.5-10.5 (10%); surf. tens. 33 dynes/cm (@ CMC); 39-40% act.
Environmental: Biodeg.

Rhodapon® CAV [Rhodia HPCII; Costec]
Chem. Descr.: Sodium isodecyl sulfate
Ion. Nature: Anionic